of the building model; and

means for initiating automatic assembly of the building model utilizing the defined parametric objects, whereby the parametric objects for the building model are created in the spatial database and customized based upon the client requirements entered via the user interface; and whereby the parametric objects communicate information via their interfaces to accurately assemble the building model.

2.   (Amended) The system of claim 1 further comprising means for creating a comparison representation of selected information pertaining to variations of the assembled building model.

3.   (Amended) The system of claim 2 wherein said comparison representation is created by:

saving the results of an initial assembling of the building model that utilizes an initial value for at least one selected parameter of the building;

changing the initial value for the at least one selected parameter by a selected amount, reassembling the building model, and saving the new results;

repeating the changing, reassembling, and saving for a selected number for variations of the building model; and

outputting a comparison representation of selected information for the reassembled building models represented by the saved results.

4.   (Amended) The system of claim 1 wherein the parametric objects further describe construction cost information, the system further comprising means for creating a cost estimate for the building model.

5.   (Amended) The system of claim 1 wherein the parametric objects further describe construction schedule information, the system further comprising means for creating a construction schedule for the building model.

28.   (Amended) A method of implementing a computer-implemented automated building design and modeling system, the method comprising:

defining parametric objects wherein each of the parametric objects represents a construction component of a building being modeled and together the parametric objects describe information sufficient for assembly of a complete building model for the building's construction as constrained by the input of selected client requirements, and further wherein each of the parametric objects includes an interface through which the parametric object communicates information with other parametric objects;

inputting selected client requirements to specify a configuration of the building model; and

automatically assembling the building model utilizing the defined parametric objects, whereby the parametric objects for the building model are created in a spatial database and customized based upon the inputted client requirements; and whereby the parametric objects communicate information via their interfaces to accurately assemble the building model.

29. (Amended) The method of claim 28 further comprising generating a comparison representation of selected information pertaining to variations of the assembled building model.

30. (Amended) The method of claim 29 wherein said representation is created by:
saving the results of an initial assembling of the building model that utilizes an initial value for at least one selected parameter of the building;

changing the initial value for the at least one selected parameter by a selected amount, reassembling the building model, and saving the new results;

repeating the changing, reassembling, and saving for a selected number for variations of the building model; and

outputting a comparison representation of selected information for the reassembled building models represented by the saved results.

31. (Amended) The method of claim 28 wherein the parametric objects further describe construction cost information, the method further comprising creating a cost estimate for said structure from said building model.

32. (Amended) The method of claim 28 wherein the parametric objects further describe construction cost information, the method further comprising creating a construction

schedule for said structure from said building model.

35.   (Amended) The method of claim 28 wherein said inputting is performed utilizing a user interface that comprises a dialog box.

36.   (Amended) The method of claim 33 further comprising, for each object that is created in the spatial database:

detecting a physical clash between an existing instance of an object and an instance of an object currently being placed by said massing element; and

avoiding the detected physical clash by automatically relocating said instance of an object currently being placed according to predefined placement rules.

Please add new claims 41 and 42, as follows:

41.   (New) The system of claim 2 wherein the variations of the assembled building model relate to the building's orientation on its site and the selected information of the comparison representation illustrates the building cost for each such variation in building orientation.

42.   (New) The method of claim 29 wherein the variations of the assembled building model relate to the building's orientation on its site and the selected information of the comparison representation illustrates the building cost for each such variation in building orientation.

REMARKS

Claims 1-10, 12, 15-38, and new claims 41 and 42 are now pending.

Reconsideration of this application in light of the above amendments and the following remarks is requested.

Saxton (US Patent 5,197,120) does not provide parametric objects that represent construction components of a building being modeled, as now claimed. Saxton describes a system that performs engineering calculations for design plans limited to intelligently establishing the geometric (dimensional) constraints of the item being designed. Geometric, i.e., dimensional, design parameters are by themselves insufficient for the assembly of a complete building model for a building's construction. Thus, Saxton alone, or in combination with the

references of record, does not disclose or suggest features of the present invention as claimed, specifically:
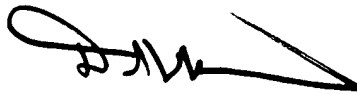
> "defining parametric objects wherein each of the parametric objects represents a construction component of a building being modeled and together the parametric objects describe information sufficient for assembly of a complete building model for the building's construction as constrained by the input of selected client requirements, and further wherein each of the parametric objects includes an interface through which the parametric object communicates information with other parametric objects[.]"

> Based upon all of the foregoing the claims are in condition for allowance.

CONCLUSION

Should the Examiner require clarification or if a telephone conference would be useful in resolving any remaining issues, the Applicant invites the Examiner to contact the Applicant's attorney or agent at the below listed number.

Respectfully submitted,

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